1   # COMBINED IN-CIRCUIT EMULATOR AND PROGRAMMER

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3   ## ABSTRACT OF THE DISCLOSURE

4   A watchdog timer control using a gatekeeper in an In-Circuit Emulation
5   system. The In-Circuit Emulation system has a microcontroller operating in lock-
6   step synchronization with a virtual microcontroller. When a watchdog event occurs,
7   the gatekeeper, forming a part of the virtual microcontroller, crowbars the reset line
8   of the virtual microcontroller as well as the real microcontroller. This freezes the
9   state of the virtual microcontroller so that debug operations can be carried out. The
10   gatekeeper operates with its own gatekeeper clock independent of the
11   microcontroller clock. When a watchdog event occurs, the gatekeeper clock is
12   rerouted to the virtual microcontroller to facilitate debug operations of the virtual
13   microcontroller.

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